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Ilia N. Vekua: Some Recollections

The period 1960–1980 was an eventful time in my life. Many things were happening throughout the world, and there was great uncertainty about the future. I came to Stanford University at the beginning of that period; it was a time of terrible political tension with repeated confrontation and the specter of atomic war. But that was also a time in which the tension was softened by new personal contacts and by developing academic cooperation among institutions and individuals on both sides of the then prevailing political boundaries. In that atmosphere, I was able to participate in the first US-USSR Joint Symposium on Partial Differential Equations, held in 1963 in Novosibirsk.

At that meeting I met a number of famous people, among them Academician Ilia Vekua, who was the founding rector of the newly created Novosibirsk University.

I had read and admired scientific papers by Vekua, and I knew some of the remarkable results in the theory of generalized analytic functions that he founded and developed into a major branch of mathematics. On the basis of what I had read, I expected to meet an imposing and severe figure, and so it came as quite a surprise to find instead a large but soft-spoken person with gentle humility and quiet humor. But there was a sense of dignity about him, and his presence conveyed an authority that commanded attention and respect. My later experience showed it to be a persuasive authority, because it derived from inner conviction rather than the power of his official position. His decisions were grounded in reason; he responded to reason, he was above petty disputes or malice of any kind, and he showed a warm generosity to all with whom he came into contact. He believed in solving human problems, rather than in dictating his will.

I had only a brief contact with Vekua at the Novosibirsk meeting, but on several occasions he visited Stanford, and I came to know him better and admire the breadth of his personality and of his achievements. He moved from Novosibirsk to become the Vice-President and later the President of the Academy of Sciences in his native land of Georgia, as the successor to Muskhelishvili. It was an ideal choice, in view of the natural development from the studies of Muskhelishvili in elasticity via singular integral equations, to the interpretation by Vekua of those equations in terms of generalized analytic functions, together with applications to elastic shell theory. The Academy and University in Georgia developed into world centers for such studies, and also expanded their purviews into minimal surface theory, optimal control theory and nonlinear partial differential equations. These developments were greatly facilitated by international meetings organized by Vekua and by others, in some of which I was privileged to participate.

Academician Vekua was one of the pioneers in the development of the theory of pseudo-analytic functions, which has become a cornerstone of modern analysis and of continuum mechanics. He was tireless in his activities toward cultivating and maintaining top standards for original mathematical research in the Republic of Georgia, for encouraging and supporting talented young scientists, and for establishing a continuing personal contact between Georgian mathematicians and mathematicians throughout the world. His name is known and respected wherever mathematics has meaning. His death was a deep loss for science and for humanity, but his achievements and the traditions he established continue to serve as a driving force for Georgian and for world mathematics. His spirit survives as a guiding light for all who believe that mathematics is worth doing, and that it has a human purpose.

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